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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/680,265

10/07/2003

Stefan Marinca

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WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER

ROSSOSHEK, YELENA

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/680,265	Applicant(s) MARINCA ET AL.	
	Examiner HELEN ROSSOSHEK	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 17-35, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 17-35, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Application 10/680,265 filed 10/07/2003 and amendment filed 03/03/2008.

2. Claims 1-8, 17-35, 37 and 38 remain pending in the Application.

3. Applicant's arguments have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 38 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In particular claim 38 claims **“transmitting an electromagnetic signal”**. Therefore in response to the Applicant's arguments should be noted that claimed “transmitting an electromagnetic signal” is not permissible according to MPEP (See MPEP 2106.01), when the claim is drawn to a computer program/program instructions per se.

The burden is on the USPTO to set forth a prima facie case of unpatentability. Therefore if USPTO personnel determine that it is more likely than not that the claimed subject matter falls outside all of the statutory categories, they must provide an explanation. For example, a claim reciting only a musical composition, literary work, compilation of data, **>signal,<** or legal document (e.g., an insurance policy) per se does not appear to be a process, machine, manufacture, or composition of matter. >See, e.g., In re Nuijten, Docket no. 2006-1371 (Fed. Cir. Sept. 20, 2007)(slip. op. at 18)(“A transitory, **propagating signal** like Nuijten's is not a process, machine, manufacture, or composition of matter.’ ... **Thus, such a signal cannot be patentable subject matter.**”).

Moreover,
When nonfunctional descriptive material is recorded on some computer-readable

Art Unit: 2825

medium, in a computer **or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement.** Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See >Diamond v.< Diehr, 450 U.S. *>175,< 185-86, 209 USPQ *>1,< 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. In re Sarkar, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978)

Moreover

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer **or on an electromagnetic carrier signal**, it is not statutory and should be rejected under 35 U.S.C. 101.

It also should be noted, that claim 38 merely claims “program instructions **usable to cause** a computer to perform a method ...”, which even does not implement any actions to “perform a method of claim 1, but only is **usable**. Accordingly, Examiner maintains rejection of claim 38 under 35 USC § 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 17-35, 37 are rejected under 35 U.S.C. 102 (b) as being anticipated by Nolan ET al. (US Patent 6,356,161).

With respect to claim 1 Nolan et al. teaches a method for compensating for temperature effects during operation of a semiconductor circuit (abstract) comprising:

scaling an output voltage value of the circuit to a desired output value at a first temperature (within a bandgap reference voltage circuit 150 shown on the Fig. 3 to produce a reference voltage 152 (col. 3, ll.9-11; col. 5, ll.18-20), wherein the reference voltage 152 might be produces/scaled by various of the reference voltage circuits 150 (col. 5, ll.59-67)); and

altering the temperature of the circuit from the first temperature to a second temperature and correcting the output value at the second temperature to match the desired output value, such that the correction to provide the desired output value at the second temperature does not change the output value at the first temperature (within computing temperature coefficient including current measurements at two distinct temperatures (col. 3, ll.11-14; ll.50-58), wherein independent current calibration method allows to set CTAT current to a predetermined value at a nominal temperature and PTAT current to set to zero and alternatively: to set PTAT current to a predetermined value at a nominal temperature and CTAT current to set to zero (col. 3, ll.14-20; col. 4, ll.63-67; col. 5, ll.1-5));

With respect to claim 17 Nolan et al. teaches the limitations similar to the limitations of the claim 1 including a semiconductor circuit adapted to provide compensation for temperature effects during operation (within circuit shown o the Fig. 3; abstract; col.1, ll.65-67; col. 2,ll,1-3)).

With respect to claim 31 Marinca teaches a semiconductor circuit adapted to provide compensation for temperature effects during operation (within circuit shown o the Fig. 3; abstract; col.1, ll.65-67; col. 2,ll,1-3)), the circuit comprising:

a digital control means for: digitally scaling an output voltage of said circuit to a desired output voltage value at a first temperature (within a bandgap reference voltage circuit 150 shown on the Fig. 3 to produce a reference voltage 152 (col. 3, ll.9-11; col. 5, ll.18-20), wherein the reference voltage 152 might be produces/scaled by various of the reference voltage circuits 150 (col. 5, ll.59-67), wherein the process of trimming the current is performed digitally (col. 6, ll.44-48)); and

digitally matching said output voltage value, at a second temperature, to said desired output voltage value, whereby said desired output voltage value at said first temperature remains unchanged (within computing temperature coefficient including current measurements at two distinct temperatures (col. 3, ll.11-14; ll.50-58), wherein independent current calibration method allows to set CTAT current to a predetermined value at a nominal temperature and PTAT current to set to zero and alternatively: to set PTAT current to a predetermined value at a nominal temperature and CTAT current to set to zero (col. 3, ll.14-20; col. 4, ll.63-67; col. 5, ll.1-5), wherein the process of trimming the current is performed digitally (col. 6, ll.44-48)).

With respect to claim 35 Nolan et al. teaches a computer program product comprising a tangible, computer-readable medium having embodied therein program instructions for causing a computer to perform the method of claim 1, when executed (within CPU 900 shown on the Figs. 7-10 coupled to a memory (col. 8, ll.29-31)).

With respect to claims 2-8, 18-30 and 32-37 Nolan et al. teaches:

Claim 2: wherein the step of scaling the output value is effected by the addition or subtraction of a constant voltage value (col. 7, ll.21-24; col. 5, ll.13-14; col. 10, ll.61-67; col. 11, ll.1-5);

Claims 3, 19: wherein the constant voltage value is generated by forcing a constant current through a resistor of the circuit (col. 6, ll.36-40; 60-64);

Claim 4: comprising generating the current from a balanced combined PTAT and CTAT current (col.5, ll.3-13);

Claim 5: comprising generating the current from reflecting a reference voltage across the resistor (col. 6, ll.25-39);

Claims 6, 23: wherein the matching step is effected by the addition or subtraction of the difference between two balanced trimming PTAT and CTAT currents (col. 3, ll.15-21);

Claims 7, 24: wherein the trimming currents are such that at the first temperature the difference between each current is zero and the combined current value has a double slope compared to a slope value of each individual current (col. 10, ll.26-37);

Claims 8, 26: between the scaling and the matching step, comprising the additional step of tuning of the trimming currents such that the difference between the PTAT and CTAT currents at the first temperature is equal to zero (col. 6, ll.44-50);

Claim 18: wherein the means for scaling the output comprises a multiplexor for adding or subtracting the output by a constant value (col. 6, ll.49-52);

Claim 30: wherein the values of the trimming currents providing the difference are stored in memory (col.);

Claim 36: wherein the medium includes a read-only memory (col. 8, ll.29-31).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 20-22, 25, 27-29, 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nolan et al. as applied to claims 17 and 31 above, and further in view of Dauphinee et al. (US Patent 7,068,100).

With respect to claims 20-22, 25, 27-29, 32-34 Nolan et al. teaches the limitations, from which the claims depend. Nolan et al. disclose decoder shown on the Fig. 1 for controlling the ratio of PTAT current and CTAT current, however Nolan et al.

lacks specifics regarding controlling the constant current by a current source coupled to a DAC. Dauphinee et al. teaches:

Claim 20: wherein the value of the constant current is controlled by a current source coupled to DAC, a value of a user controlled input code applied to the DAC to determine the value of the constant current (col. 17, ll.27-40; Fig. 16A);

Claim 21: wherein the addition or subtracting of the constant voltage value is controlled by at least one of the multiplexors coupled to two outputs of the DAC, to determine whether the constant voltage value is to be added or subtracted (col. 17, ll.27-40; Fig. 16A);

Claim 22: wherein the addition or subtracting of the constant voltage value is controlled by a second input to the DAC (col. 17, ll.27-40; Fig. 16A);

Claim 25: wherein the PTAT and CTAT trimming currents are controlled by a first and second DAC, the output of the first and second DAC connected to at least one multiplexor, whereby a control signal applied to the multiplexor controls the addition or subtraction of the difference (col. 18, ll.54-67);

Claim 27: wherein the tuning means comprises a tuning DAC coupled to a source of one of the currents, such that tuning may be achieved by adjusting a value of a user controlled input to the tuning DAC (col. 19, ll.1-17);

Claim 32: wherein a constant current is generated by a balanced combination of PTAT and CTAT current sources, each current source coupled to a DAC, the value of an input code applied to an input of each DAC determining the value of the constant

current, and wherein the addition or subtracting of the constant voltage value is controlled by a second input to each DAC (col. 19, ll.18-27);

Claim 33: wherein the digital control means comprises register, coupled to the inputs of each DAC, wherein the output values from the register determine the value of the input codes to each DAC (col. 19, ll.8-12);

With respect to claim 34 Nolan et al. teaches:

Claim 34: wherein the register is connected to a digital control unit and memory, the value of the input codes are stored in the memory, and the transfer of the input codes from memory to the register is controlled by the digital control unit (col. 2, ll.60-67; col. 3, ll.1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used Dauphinee et al. to teach specifics Nolan et al. does not teach, because it is implemented more linear, lower noise, less costly amplifier assembly for providing variable amplifier gain in a variety of applications, such as those including multiple tuners for cable television and data signal applications (col. 1, ll.27-30).

Remarks

11. In remarks Applicant argues in substance:

a) Nolan does not disclose "altering the temperature of the circuit from the first temperature to a second temperature and correcting said output value at the second temperature to match said desired output value", the correction at the second temperature not changing the output value at the first temperature.

b) there is no disclosure in Nolan that during this variable ratio calibration technique, when the temperature of the circuit is altered from a first to a second temperature, and the output value of the reference voltage is corrected to match the desired reference voltage (by modifying the PTAT and/or CTAT currents), that correction to provide the desired reference voltage at the second temperature does not change the output value at the first temperature

12. Examiner respectfully disagrees for the following reasons:

With respect to a) Nolan et al. discloses a stable voltage reference by using calibration technique for trimming bias currents (offsetting CTAT and PTAT currents), when summed are independent of temperature variation (col. 10, ll.61-65), wherein the stable voltage reference is output of bandgap reference voltage circuit, which provides a single reference voltage (constant and independent of temperature) (col. 5, ll.35-38), and wherein calibration technique performs calibration of output currents at two temperatures (col. 10, ll.32-35), and wherein the temperature coefficients for the PTAT current and CTAT current are computed by taking current measurement at two distinct temperatures (col. 3, ll.50-53).

With respect to b) Nolan et al. discloses bandgap reference voltage circuit, which produces stable reference voltage (col. 5, ll.36-38) by using offsetting PTAT and CTAT currents, which are trimmed/modified with respect to temperature, wherein temperature coefficients for PTAT current and CTAT current are measured by taking current measurements at two different temperatures (col. 3, ll.50-55), and wherein are summed produce the current that is nearly independent of temperature (col. 5, ll.1-13), so when

the reference voltage is produced it's stable, because it's compensated by using summation of offsetting CTAT and PTAT currents, which is independent of temperature and which minimizes the effect of reference voltage drift (col. 5, ll.41-67).

Accordingly, based on at least these disclosures from Nolan et al. Examiner maintains rejection of claims 1-8, 17-35 under 37 35 U.S.C. 102 and claims 20-22, 25, 27-29, 32-34 under 35 U.S.C. 103(a), wherein Dauphinee et al. compensates deficiency of Nolan et al. as described above. Examiner believes that Nolan et al. along and the combination of Nolan et al. and Dauphinee et al. reads the claims as currently written.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN ROSSOSHEK whose telephone number is (571)272-1905. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HR
05/15/2008

/Helen Rossoshek/
Primary Examiner, Art Unit 2825